REMARKS

Applicants amend claims 1 and 4 to clarify the claimed invention. Support for the amendment can be found at page 13 line 25 to page 14 line 10. No new matter is added. Applicants respectfully submit that the pending claims define over the art of record.

Double Patenting

Claims 4-6 are provisionally rejected on the ground of nonstatutory obviousness-type double patenting as being unpatentable over claim 1 of copending Application No. 10/187933, recently issued as United States Patent No. 7087334. Applicants submit herewith a terminal disclaimer. Applicants respectfully submit that the Examiner reconsider and withdraw the obviousness-type double patenting rejection.

Claim Rejections Under 35 U.S.C. §112

Claims 1-6 are rejected under 35 U.S.C. §112, second paragraph, as being indefinite. Specifically, the Examiner asserts that the limitation "the storing unit" in claim 1 lacks antecedent basis. Applicants amend claim 1 to address the Examiner's concern. Applicants respectfully request that the Examiner reconsider and withdraw the rejection of claims 1-6 under 35 U.S.C. §112.

Claim Rejections Under 35 U.S.C. §102

Claims 1-6 are rejected under 35 U.S.C. §102(e) as being anticipated by United States Patent No. 6,461,751 to Boehm (hereafter "Boehm"). Applicants respectfully submit that the Boehm reference does not disclose the limitation that the determination threshold value *decreases when a loaded state of the fuel cell decreases*, as recited in amended independent claims 1 and 4.

The Claimed Invention

The claimed invention provides a method and system for protecting a fuel cell. A hydrogen sensor is used to detect hydrogen in an off-gas discharged from the cathode. The detection value from the hydrogen sensor is compared to a determination threshold value that is

stored in a memory unit. The determination threshold value changes according to the operating state of the fuel cell. When a loaded state of the fuel cell decreases, the determination threshold value tends to decrease as well. Examples of a decrease in the loaded state of the fuel cell includes a decrease in generated current of the fuel cell or a decrease in pressure of the reaction gasses supplied to the fuel cell. In the claimed invention, even in the event that the amount of hydrogen in the off-gas is within a predetermined allowable range relative to the operating state of the fuel cell, the occurrence of an abnormal state can be determined by an appropriate determination threshold value, and an appropriate process can be implemented by the protecting unit when the abnormality of the fuel cell is determined.

The Boehm Reference

The Boehm reference discloses that a hydrogen sensor method that uses a hydrogen sensor to monitor a cathode exhaust stream downstream of the cathode to detect hydrogen gas concentration. See Col. 5, lines 1-4. The Boehm reference further discloses that a problem with using the hydrogen concentration measured in the cathode exhaust stream to detect oxidant starvation is that oxidant starvation is not the only possible cause for hydrogen gas being detected at the cathode. See Col. 5, lines 21-24. The controller needs to be able to distinguish between oxidant starvation and fuel crossover when the fuel comprises hydrogen. See Col. 5, lines 38-39. The Boehm reference then discloses that if the oxidant mass flow rate is already greater than or equal to the maximum desired mass flow rate and if the hydrogen gas concentration is greater than a third concentration threshold which is greater than the first and second concentration threshold, the operation of the fuel cell is ceased because this situation indicates that there is an excessive amount of fuel passing through leaks between the anode and cathode. See Col. 5 line 62 to Col. 6, lines 7. In other words, the Boehm reference is only able to detect fuel crossover much later in the operation of the fuel cell and the untimeliness of such detection is one that the claimed invention tries to solve. The Boehm reference does not disclose the limitation that the threshold value *decreases when a loaded state of the fuel cell is decreased*, as recited in amended claims 1 and 4.

Accordingly, Applicants respectfully submit that the Boehm reference fails to disclose each and every element and limitation of claims 1 and 4. Applicants respectfully request that the

Examiner reconsider and withdraw the rejections of independent claims 1 and 4.

Applicants note that the dependent claims also recite patentable subject matter. As such, for this and the reasons set forth above, Applicants respectfully submit that the dependent claims also define over the art of record.

Application No.: 10/623011 Docket No.: NGW-009

CONCLUSION

In view of the above amendment, Applicants believe the pending application is in condition for allowance.

Applicants believe no fee is due with this statement. However, if a fee is due, please charge our Deposit Account No. 12-0080, under Order No. NGW-009 from which the undersigned is authorized to draw.

Dated: July 26, 2006

Respectfully submitted,

By _____

Anthony A. Laurentano
Registration No.: 38,220
LAHIVE & COCKFIELD, LLP
28 State Street
Boston, Massachusetts 02109
(617) 227-7400
(617) 742-4214 (Fax)
Attorney/Agent For Applicant